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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,463	01/23/2001	James Logothetis	10722-253	2767

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EXAMINER

PHAN, THIEM D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 07/22/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/767,463	Applicant(s) LOGOTHETIS, JAMES	
	Examiner Tim Phan	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed in Paper No. 7 (filed 2/28/03) has been duly considered and made of record.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 9-12, 14-16 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Swarup (US 5,929,729) hereinafter '729.

As applied to claim 9, the '729 teaches a method of making stripline circuit structure, comprising:

- manufacturing a plurality of substrate layers (Cf. Fig. 6B, elements 192, 204, 208, 212);
- etching at least five metal layers (Cf. Fig. 6B, elements 202, 198, 194, 190, 206) disposed on several substrate layers (Cf. Fig. 6B, elements 192, 204, 208, 212); wherein second

metal layer (element 210) is part of transmission line coupler and sandwiched between first metal layer (element 214) and 3rd metal one (element 206); wherein 4th metal layer (element 190) is part of transmission line coupler and sandwiched between 3rd metal layer (element 206) and 5th metal one (element 194);

- connecting via hole (element 160) all the 1st, 3rd, 5th layers of groundplane (elements 214, 206 & 194);
- connecting via hole (Cf. Fig. 6B, elements 160; column 11, lines 62-65) the coupler segment disposed on second metal layer (element 210) to the coupler segment disposed on 4th metal layer (element 160) forming transmission line structure.

As applied to claim 10, the '729 teaches the substrate layer of PTFE (Cf. column 9, line 50).

As applied to claims 11 and 12, the '729 teaches that the via holes or transmission lines (Cf. Fig. 6B, element 160) connect at least two metal layers (elements 202 & 204).

As applied to claims 14-16, the '729 teaches that the invention is a wideband coupler where the frequency bandwidths are not dependent on the center frequency of the transmission line (Cf. column 4, lines 66 & 67) and the coupled structure is non-uniform (Cf. Fig. 6A) as a Cappucci coupler where the four port networks (Cf. Fig. 6A, elements 32, 34, 52 & 54; column 11, line 24) are interconnected through coupled and uncoupled striplines (Cf. Fig. 6A, elements 36, 38, 40, 42).

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As applied to claim 25, the '729 teaches the connection from the 3rd metal layer (Cf. Fig. 6B, element 206) to the 1st one (element 214) and 5th one (element 194) by a transmission line (element 160) and the connection of the coupler segment from the 2nd metal layer (Cf. Fig. 6B, element 210) to the 4th one (element 190) by another transmission line (element 160).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '729.

As applied to claim 13, the '729 teaches the claimed invention except for describing the operating frequency between 0.5 GHz and 6.0 GHz. It would have been obvious to one of ordinary skill in the art at the time the invention is made to provide the operating frequency between 0.5 GHz and 6.0 GHz, since it was known in the art that the operating bandwidths are commonly known to be between several hundred MHz to several GHz (Cf. column 2, line 8).

Response to Arguments

6. Applicant's arguments filed 2/28/03 have been duly considered but they are not persuasive for the following reasons:

The Office's position states that the '729 teaches a manufacturing process of stripline architecture which reads on all Applicant's claimed invention, including all the elements of claim 9. The '729 presents several ground planes (Cf. Fig. 6B, elements 214, 206, 194 & 202) where the striplines or transmission line portions (elements 210, 190 & 198) are sandwiched in between.

Moreover, in the world of microwave technology where stripline architecture dominates, there is seldom or no use of discrete lumped-element circuits such as passive resistors or capacitors and active amplifiers mounted on a typical printed circuit board as these elements are shaped-etched into stripline architecture of the transmission line while functioning as discrete components without having their typical body structures and the same functionality works with the feed-through hole which acts as part of the transmission line. Thus, the capacitors and spiral inductors of the '729 are not lumped components but rather stripline-etched into the transmission line structure or coupler which is well known in the art to be a device that can have four terminals or four port network characterized by its coupling factor, k , and its matching impedance at a specified frequency as in Fig. 6A.

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7. With the remainder of the dependent claims and newly added claimed 25 rejected under either 35 USC 102 or 35 USC 103, they stand rejected as carefully articulated in the current Office Action and in Responses to Remarks in paragraph 6 above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Furthermore, the Patent Office saith not.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 703-605-0707. The examiner can normally be reached on Monday - Friday, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter VO can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

TP

Tim Phan
Examiner
Art Unit 3729

tp
July 16, 2003

CJA

CARL J. ARBES
PRIMARY EXAMINER